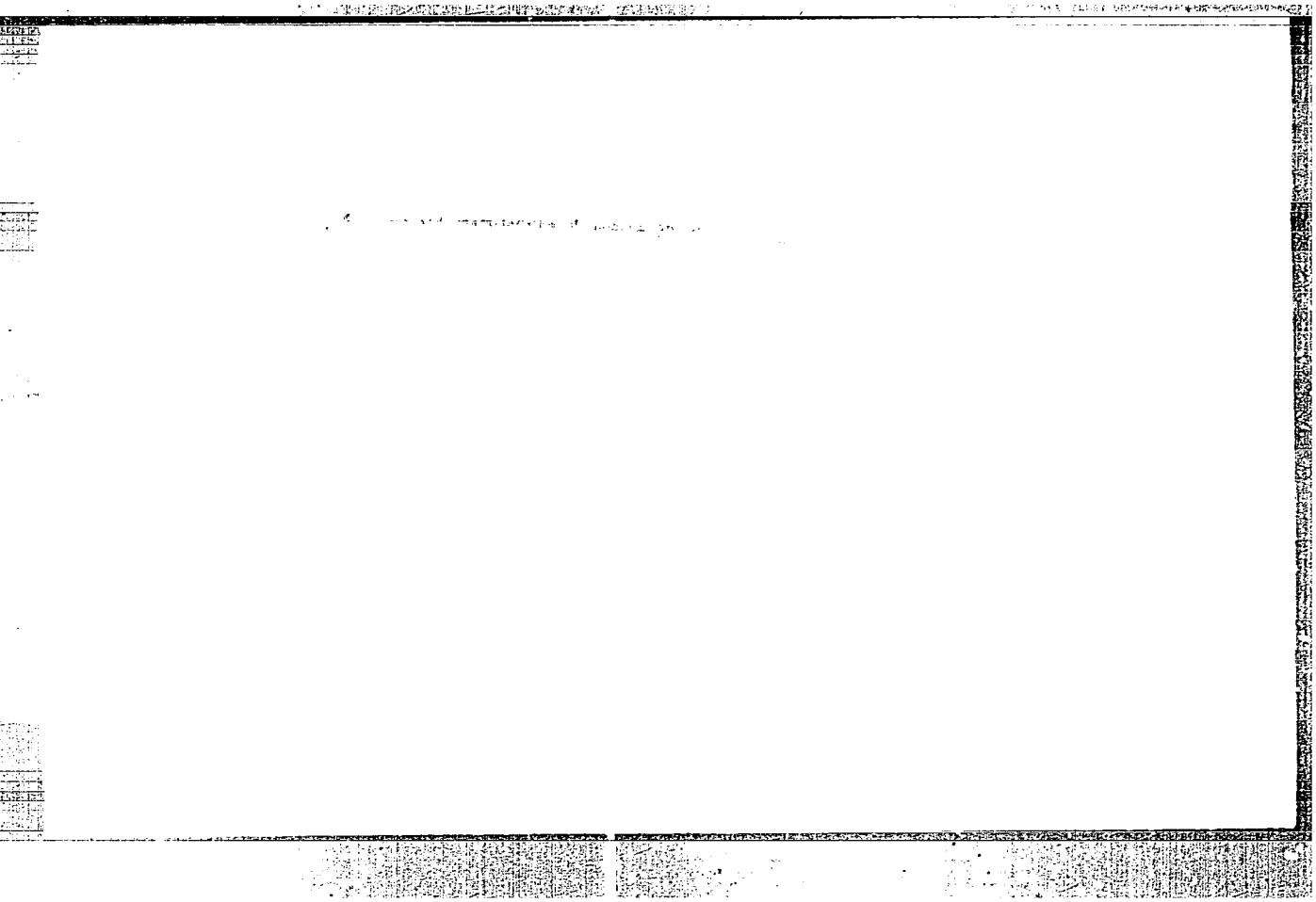
KRULISOVA, B.

What the locomotive engineer talked about; a feuilleton. p. 291.
ZELEZNICE, Prague, Vol. 4, no. 11, Nov. 1954.

SO: Monthly List of East European Accessions, (EEAL), LC, Vol. 5, No. 6, June 1956, Uncl.



APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000826720012-3"

ACC NR: AP6003642 SOURCE CODE: UR/0078/65/010/010/2384/2386

AUTHOR: Sanatina, V. N.; Strekalovskiy, V. N.; Krulov, Ye. I. 42

ORG: none

TITLE: Transition metal orthoniobates with rutile structure B

SOURCE: Zhurnal neorganicheskoy khimii, v. 10, no. 10, 1965, 2384-2386

TOPIC TAGS: niobium compound, titanium compound, vanadium compound, chromium compound, iron compound, manganese compound, magnetic susceptibility, paramagnetism, niobate, magnetic moment

ABSTRACT: The compounds $TiNbO_4$, $VNbO_4$, $CrNbO_4$, $MnNbO_4$, and $FeNbO_4$ were synthesized from Nb_2O_5 and the corresponding oxide. In each case x-ray analysis confirmed the presence of phases with unit cell parameters characteristic of orthiniobates. Small amounts of free Nb_2O_5 and Ti_2O_3 and Fe_2O_3 were shown to be present on diffractograms of $TiNbO_4$ and $FeNbO_4$. The magnetic susceptibility of the synthesized compounds was measured by the Gouy method at 78, 195, and 295°K at a magnetic field strength of 1200 Oe. within the temperature range studied, the temperature dependence of the molar susceptibility obeys the Curie-Weiss law $\chi_M = C/T-\theta$ with negative values of θ°K, and the effective magnetic

UDC: 546.882.5

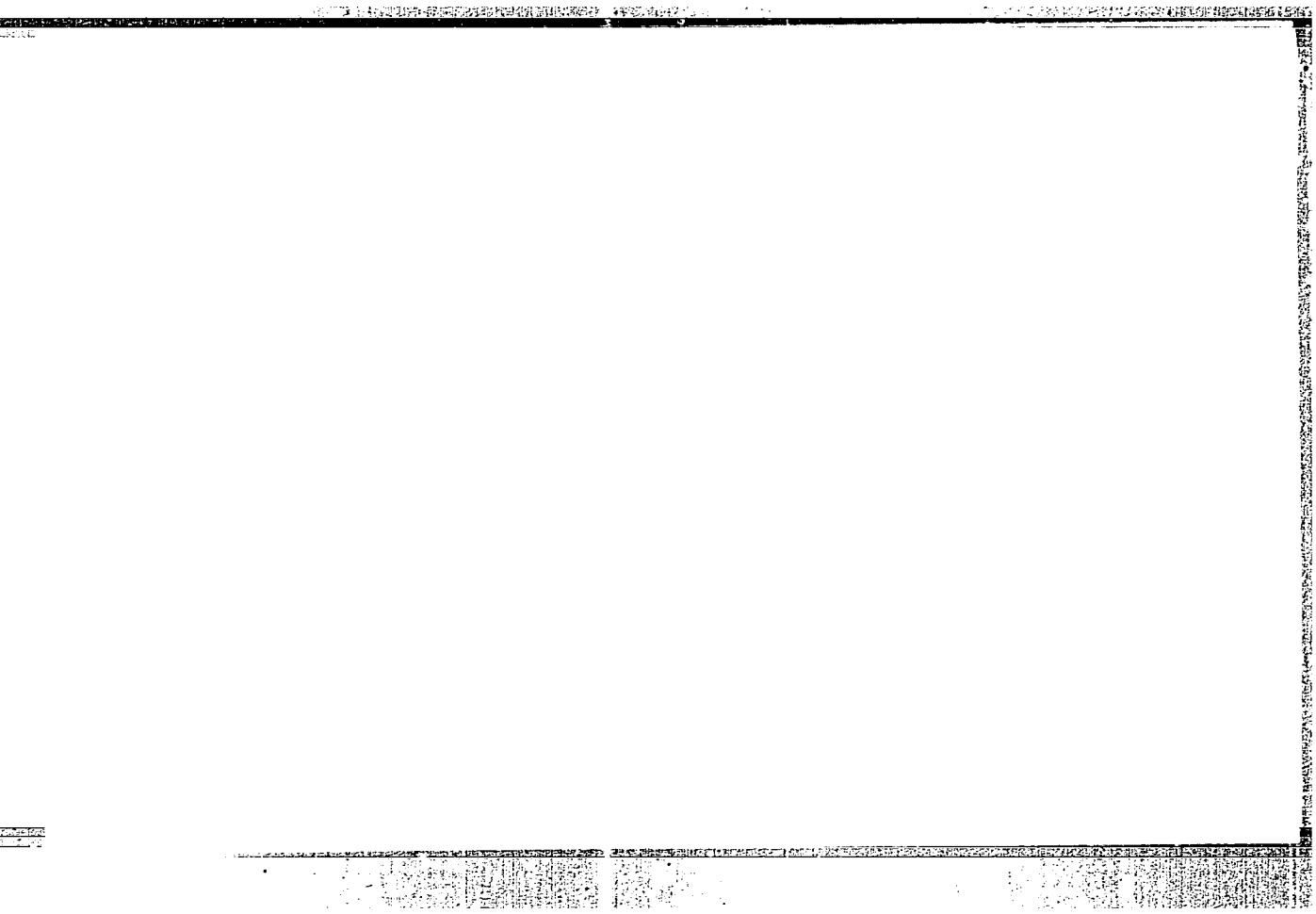
Card 1/2

ACC NR: AP6003642

moments of trivalent ions: Ti(d^1), V(d^2), Cr(d^3), Mn(d^4), and Fe(d^5) with a spin-free electron configuration. The normal paramagnetism of orthoniobates of trivalent metals is interpreted in terms of their crystal structure. The similarity of the ionic radii of the trivalent A ions (paramagnetic transition metal ions) and pentavalent niobium and their small size create favorable conditions for a statistical distribution of A^{III} and Nb^{V} in the octahedral vacancies of the close-packed oxygen lattice. The short-range order in the arrangement of the paramagnetic A^{III} ions and diamagnetic Nb^{V} ions is maintained by electrostatic forces, so that the A^{III} ions are seldom the closest neighbors to one another, and for this reason normal paramagnetism is manifested here. Orig. art. has: 1 figure, 2 tables.

SUB CODE: 07/ SUBM DATE: 18Aug64/ ORIG REF: 002/ OTH REF: 004

Card 2/2



APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000826720012-3"

BULGARIA/Chemical Technology - Chemical Products and Their Application, Part 3. - Treatment of Natural Gases and Mineral Oil, Motor and Rocket Fuel, Lubricants. H-22

Abs Jour : Ref Zhur - Khimiya, No 7, 1958, 22700

Author : Krum Kaishev
Inst : -
Title : Catalytic Cracking of High Temperature Fractions of Tyulenovo Mineral Oil.

Orig Pub : Tezhka prom-st, 1957, 6, No 3, 31-32

Abstract : Laboratory experiments of cracking the 350 to 450° fraction of the Tyulenovo mineral oil were carried out on microporous Al-Si catalyst at the temperature of 450 to 460° and voluminar rate of 0.7. Up to from 34 to 36% of high quality cracking gasoline was produced in one operation; the gas contained 19 to 23% of unsaturated and 59 to 62% of saturated hydrocarbons. The conclusion was arrived at that the high temperature fractions of the

Card 1/2

BULGARIA/Chemical Technology - Chemical Products and Their Application, Part 3. - Treatment of Natural Gases and Mineral Oil, Motor and Rocket Fuel, Lubricants. H-22

Abs Jour : Ref Zhur - Khimiya, No 7, 1958, 22700

Tyulenovo mineral oil can serve as a raw material for catalytic cracking.

Card 2/2

KRUMAN, B.; SHAKOV, G., inzhener-ekonomist.

Improve the quality of joints for pump rods. Neftianik 1 no.8: 13-15 Ag '56. (MLRA 9:11)

1. Master 3 promysla Nefteprom yslovogo upravleniya Molotovneft' (for Kruman).

(Sucker rods)

KRUMAN, B.B.

Designing deep-well sucker rods. Neftianik 2 no.12:20-23 D '57.
(MIRA 11:2)

1. Master podzemnogo remonta 3-go promysla Neftepromyshlennogo upravleniya Lokbatanneft'.

(Sucker rods)

KRUMAN, B.B.

Effect of pumping methods on the operation of sucker rods.
Neft. khoz. 35 no.10:51-54 O '57. (MIRA 11:1)
(Sucker rods)

KRUMAN, B.B.

Effect of some characteristics of the material on the longevity of sucker rods. Azerb.neft.khoz. 36 no.3:29-32 Mr '57. (MLRA 10:5)
(Sucker rods)

KRUMAN, B.B.

FAYERMAN, I.L.; KRUMAN, B.B.

Calculating sucker rod strings. Azerb. neft. khoz. 36 no.4:24-26 Ap '57. (MLRA 10:6)

(Sucker rods)

KNOX, B.E., Grad Rsch Sci--(M.S.) "[illegible] carrying out stage
[illegible] in the offices of [illegible]," 5 Jan,1959.

17 p. (Min of Higher Education [illegible]. Astrakhan Inv), 10 copies (KL, 59-52,102)

KRUMAN, B.B.; RUSTAMOV, M.S.

Efficient use of the capacity of a deep-well installation.
Azerb. neft. khoz. 38 no.8:34-36 Ag '59. (MIRA 13:2)
(Oil well pumps)

KRUMAN, B.B.; EFENDIYEV, D.A.

Problems relative to the investigation of beam wells. Trudy Inst. geol. i geofiz. AN Kazakh. SSR 1:116-132 '63. (MIRA 16:7)
(Azerbaijan—Oil well pumps)

KRUMAN, B.B.

Wear of subsurface pumping equipment. Mash. i neft'. obor. no.1:26-27 '63. (MIRA 17:1)

1. TSekh nauchno-issledovatel'skikh i proizvodstvennykh rabot neftepromyslovogo upravleniya "Karadagneft'".

KRUMAN, B.B.

Method of determining the probable period of service of a deep well pump from field data. Neft.khoz. 39 no.1:47-51 1 Ja '61. (MIRA 17:3)

KRUMAN, Boris Borisovich; MURAV'YEV, V.M., red.; KAYESHKOVA, S.M., ved. red.

[Practice in the exploitation and study of beam wells] Praktika ekspluatatsii i issledovaniia glubinnonasosnykh skvazhin. Moskva, Nedra, 1964. 203 p. (MIRA 18:1)

SOV-125-58-10-9/12

AUTHORS: Ol'shanskiy, N.A., Mordvintseva, A.V., and Krumbol'dt, M.N.

TITLE: The Use of Ultrasound in Seam and Spot Welding (Ispol'zovaniye ul'trazvuka dlya shovnoy i tochechnoy svarki)

PERIODICAL: Avtomaticheskaya svarka, 1958, Nr 10, pp 76 - 77 (USSR)

ABSTRACT: The authors present information on investigations carried out, together with Engineers L.V. Karaseva and Yu.N. Zorin, by MVTU and MEI on the use of ultrasound in welding practice, and on the first results obtained in this field. The information includes descriptions of the experimental devices, i.e. a machine for ultrasonic spot welding, the basic part of which is a magnetostriction converter (Figures 1,2) and a machine for ultrasonic seam welding, the basic parts of which are a magnetostriction converter and a waveguide. To obtain a concentrated source of ultrasonic oscillations, waveguides of different design were tested (stepped, conic exponential and cathenoid shapes). Best results were obtained with waveguides of exponential shape. Tests were performed on ultrasonic spot welding of aluminum and its

Card 1/3

The Use of Ultrasound in Seam and Spot Welding

alloys up to a thickness of 1.5 mm and of plastics up to 0.8 mm in thickness. Welding of similar and different metals (aluminum with copper, copper with stainless steel, etc.) was successfully performed. It was stated that soft metals are easier to weld than hard metals. Special tests were carried out to determine maximum temperatures produced by ultrasonic oscillations in different metals under different pressure. It was stated that metal properties and pressure affect the character of the thermal cycle and the maximum temperature values. Investigations of

Card 2/3 the strength of spot and seam welded joints proved that

The Use of Ultrasound in Seam and Spot Welding

the strength of weld joints depends on the duration of the ultrasonic oscillation passage and on the electrode pressure. In all cases of seam welding, the strength of the weld joint exceeded that of the base metal. There are 3 sets of photos, 2 diagrams and 2 graphs.

ASSOCIATION: MVTU imeni Bauman and MEI

SUBMITTED: April 18, 1958

1. Metals--Welding 2. Plastics--Welding 3. Ultrasonic radiation--Applications 4. Welds--Effectiveness

KRAMBOL'DT, V.N., Cand Tech Sci -- (diss) "Spot welding of metals ~~with~~ by means of ultrasound." Kiev, 1959. 12 pp with diagrams (Min of Higher Education USSR. Kiev Order of Lenin and Order of Labor Red Banner Higher Tech School im Bauman). 150 copies. (KL, 37-59, 108)

PHASE I BOOK EXPLOITATION SOV/3901

Novye v elektrichesky i ul'trazvukovy obrabotke materialov (New Developments in Electrical and Ultrasonic Machining of Materials) [Leningrad], Lenizdat, 1959. 281 p. 5,000 copies printed.

Ed. (title page): L.Ya. Popilov; Ed. (inside book): S.I. Borshchevskaya; Tech. Ed.: P.S. Silinov.

PURPOSE: This book is intended for technical personnel and production workers.

COVERAGE: This is a collection of 20 articles presented at the Third All-Union Conference of the Scientific and Technical Society of the Machine Industry on Electrical and Ultrasonic Machining of Metals, held in Leningrad. The articles deal with the latest achievements in the field of electrical and ultrasonic machining of metals. New methods of machining presently being developed are described. References follow several of the articles.

AVAILABLE: Library of Congress (TJ 1191 .P 63)

VK/ks/jb
8-12-60

Card 3/3

1.2310 (2408)

27806
S/549/61/000/101/003/015
D256/D304

AUTHORS: Ol'shanskiy, N.A., Candidate of Technical Sciences, Docent, and Krumbol'dt, M.N., Candidate of Technical Sciences

TITLE: Ultrasonic spot-welding and aluminum alloys

PERIODICAL: Vysshaye tekhnicheskoye uchilishche. Trudy. Svarka tsvetnykh splavov, redkikh metallov i plastmass, no. 101, 1961, 49 - 99

TEXT: Two methods of introducing ultrasonic vibrations into the welded joint are shown in Figs. 1 and 2. The device shown in Fig. 1 is simple in design, reliable in operation and amenable to mathematical analysis. The direct power transmission means that no limitations are imposed, and equipment can be planned for heavy-gauge welding. In principle the device can be used for continuous seam welding if the welding stub is made annular and the generator block rotates about the longitudinal axis. However, the reso-

Card 1/11

Ultrasonic spot-welding and . .

nance frequency varies with loading, the change becoming marked at 60 k load and greatest at 300 k, so that a variable-frequency generator transducer system is required. This disadvantage is not inherent in the method shown in Fig. 2, but the device is less robust, more restricted in power and difficult to analyze mathematically, and cannot be used for continuous seam welding. A really satisfactory machine of this type was never developed by the authors. A batch of machines of Fig. 1 type were produced, permitting welding of aluminum alloy sheet up to 1.2 mm thick. A gun-type welder was also made. Equipment for ultrasonic spot welding is then reviewed and a number of reed forms tested by the authors are described. A stepped cylindrical reed gives a maximum amplification $C_A = D^2/d^2$, where these are radii of the input and output ends, but is unsuitable for transmitting relatively high ultrasonic powers used in welding, since the mode is located at the section change, and here stresses and stress concentration at a maximum. Fatigue fracture quickly occurs on reaching resonance at high power. With a conical reed $C_A < D/d$. for a ½-wave reed the limit

Card 2/11

Ultrasonic spot-welding and ...

ing value is 4.6. For a double half-wave reed this becomes 7.6. Best working is obtained at 3 - 3.5 and 5 - 6 respectively, and this can be used for welding. Exponential reed is most suited for welding. As distinct from other types it resonates over a large frequency range and is easier to match to the transducer and less sensitive to frequency changes on loading. It can transmit high power and give amplification up to $C_A = 16$ with a single 1/2-wave scheme. Catenoidal reeds give the greatest amplification, but their mathematical analysis is difficult, and they possess no advantages for welding over exponential. Comparative values for resonance length and amplification are shown graphically. After discussing further characteristics of the exponential reed the authors examine finding node positions and vibration amplitude experimentally, and note that the former could be found by dusting powder onto the horizontally placed lateral surface of the vibrating reed. A catharometer could be used to measure amplitude, by measuring the length of the line of images of a point light source reflected from one spot of the vibration reed. Subsequently weld-

Card 3/11

27806
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Ultrasonic spot-welding and ...

ing machines are discussed, pistol-type, seam, and spot-welding machines, the YП-1 (UP-1), YШ-1 (USh-1) and YT-4 (UT-4), respectively, the latter being described in some detail. Technically details of the UT-4 machine are: Supply voltage for U.S. generator and time relay: 220 V; Electrical power consumption: 6 watt; Resonance frequency: 20 kcps; Max. gap between end of reed and anvil: 20 mm; Range of automatic time regulation: 0.1 - 2 sec.; Dimensions: Width - 635 mm; length - 680 mm; height - 1020 mm; weight - 70 k. Factors discussed subsequently, include a) thermal processes: The authors carried out similar experiments using chromel-alumel thermocouples, while realizing that the max. temperature recorded would be lower than the true one. 0.35 mm diameter wires were joined in a so-called "knife joint" and then flattened to 0.2 - 0.3 mm. This could then be inserted between sheets of metal to be welded. The thermocouple E.M.F's were recorded oscillographically for short welding cycles and on paper by means of a thermograph for the longer cycles. Different materials and loading conditions were investigated, the minimum load being that at

Card 4/11

Ultrasonic spot-welding and ...

which a spot was just obtained. It was established that at large pressures initial heating was more rapid, but the maximum temperature reached was lower. With maxima attained in 40-80 sec. the temperature then began to fall, although vibrations were still being applied; this was attributed to a lowering of energy absorption on completion of welding. If the pressure was too low and welding did not occur, then a similar fall was observed. Prolonged ($>$4-6 sec.) application of energy was undesirable since this lowered productivity and led to overheating and oxidation of the metal. Thus marked surface oxidation occurred in copper after 15-20 sec, and after 1.5-2 min. cracks appeared around the spot about 1 cm from it. With prolonged treatment aluminum became welded to the reed so strongly that it had to be knocked off with a chisel. The surface of the Al around the spot was coated with a black film and was usually cracked. b) Microstructure of welded joints: Weld formation was in 3 stages. At first the process commenced at individual points corresponding to sites of contiguity of surface projections, and crystals were formed at these locations. In growing, the groups of uniting grains formed islands,

Card 5/11

Ultrasonic spot-welding and ...

easily visible on the fractured surfaces. In the third stage the islands became united, filling the whole contour of the spot. c) Effect of surface cleaning: The work of the authors is summarized in tabulated form and indicates that surface condition had a great influence on joint strength. Degreasing and cleaning were particularly important with thin foil. d) Effect of welding tip shape and material: A further series of tests with different tip radii (with stellite hard-facing) and different tip materials (including copper and brass) established that (a) The tip material should be harder than the metal being welded; (b) It should possess good thermal conductivity and not become overheated during welding; (c) The tip material, while hard, should not be brittle or crack and crumble; (d) It should be grindable; (e) The radius of curvature of the tip had little influence on weld strength (within the range 10-30 mm) but the smallest radius tended to give greater indentation. e) Strength of ultrasonic welded joints (single spot): For each type and thickness of sheet that loading force was found which gave the highest strength at the shortest welding time. With the force constant at this value the effect of ul-

Card 6/11

trasonic application time was then found. With the combination of force and time defining the optimum conditions, a series of specimens were made for fatigue and elevated temperature testing. With correctly chosen conditions fracture normally occurred by the spot pulling out along the periphery, both in shear testing and in tension. Shearing through the spot could also occur, and Table 9 showed the specific strengths obtained under both conditions. f) Load distribution and spot strength in a multi-spot joint: Spots could be closer together than with resistance welding, since the problem of current shunting did not arise. It was established that welding of one spot had no influence on the properties of preceeding spots. The welding operation itself had a slight weakening effect on a continuous member when another member was ultrasonically welded to it. g) Fatigue testing. This was carried out on a pulsating tension cycle, with specimen form. The fatigue strength obtained (30 k) was comparable with that for a conventional spot weld (25 k). At 250°C a value of about 16 k was obtained. Generally speaking, the properties of ultrasonic welds were not inferior to those of resistance welds. The high shear static strength was

Ultrasonic spot-welding and ...

explained by the small change in material properties in the joint and the slightly larger spot diameter than in resistance spot welds The strength in tension (tearing) could, however, be lower. There are 37 figures, 15 tables, and 22 references: 9 Soviet-bloc and 13 non-Soviet-bloc. The 4 most recent references to the English-language publications read as follows: L.R. Vaidinath, M.G. Nicholas, D.R. Milner, Pressure Welding by Rolling, British Welding Journal, 1959, v. 6, No. 1, p. 13-18; B. Jones, W.C. Potthoff, Ultrasonic Welding, Aircraft Production, 1958, v. 20, No. 12, p. 492-495; I. Wernon, New Welding Processes, Welding and Metal Fabrication, 1958, v. 26, No. 9, p 328-337; B. Jones, F. Meyer, Ultrasonic Welding of Structural Aluminum Alloys, Welding Journal, 1958, v. 37, No. 3, p. 81-82.

Card 8/11

1,2350.
1,2310

45221

S/775/62/002/000/005/011

AUTHORS: Nikolayev, G. A., Ol'shanskiy, N. A., Krumbol'dt, M. N.

TITLE: New welding-technology processes.

SOURCE: Avtomatizatsiya protsessov mashinostroyeniya. t. 2: Goryachaya obrabotka metallov. Moscow, Izd-vo AN SSSR, 1962, 183-193.

TEXT: The 7-year Plan will witness a doubling in the mechanization and automatization of welding (WG) in the USSR, with some branches of automated welding production attaining 70-80% of the total WG operations. Greatest promise is afforded by automatic electric-arc submerged flux WG, arcless electric slag WG in a shielding atmosphere (Ar for Al, Ti, and other alloys; CO_2 for C and alloyed steels), also all types of contact welding. Applications: Heavy, agricultural, and chemical machine building, ship building, transportation, and building structures, also in hard-facing. Other WG problems are of great difficulty: WG of active metals (Ti, Mo, etc.), like and unlike metals tenths and hundredths of an mm thick (electronics applications), also some plastics and high-polymer materials. The paper describes new mechanized and automatized WG processes for these latter materials elaborated by the labs of the School of Welding Production of the Moscow Higher Technical School imeni Bauman (MVTU) jointly with the School of Metals Technology of the Moscow Power Institute (MEI). Inert-medium-shielded WG processes:

Card 1/4

New welding-technology processes. S/775/62/002/000/005/011

Contrary to foreign Ar-shielded Ti and Mo manual-WG practice, the MVTU and MEI developed mechanized equipment (photo) in which the WG is done automatically in a chamber with a W electrode and a welding rod; the weldment is transported past a stationary WG head. 2-mm thick specimens were welded into joints with good plastic properties (180° bend) and corrosion resistance. Further progress requires development of bunker and continuous-feed devices to ensure continuity of the WG process; additional process improvement must take various properties of active metals and the geometry of weldments into account. Vacuum-chamber WG: Vacuum-chamber work at MVTU and MEI was motivated by a desire to eliminate the intrusion of noxious gases into a seam along with the Ar. At 10^{-4} torr and normal arc voltage, the arc from a W electrode burns extremely unsteadily. In 1958 an electron-beam WG vacuum chamber (VC) was developed (cross section). The VC consists of a high-V kenotron rectifier, a high-V transformer, and a condenser. The weldment serves as the anode, a heated W spiral as the electron-emitting cathode; the electron beam is focused by a lens and directed onto the weldment by a deflecting system. To date, such WG has been performed on thicknesses of a few mm, but WG of significantly thicker parts appears possible. Electron-beam vacuum welding affords lower and more uniform hardness and greater plasticity to a weld. Desirable improvements are listed. Ultrasonic (US) WG of metals: US WG of metallic and nonmetallic materials appears promising, but neither the technology nor even the physics of the phenomenon are sufficiently understood. Thin (1.5-mm) parts can be thereby

Card 2/4

welded together and onto thicker parts. The temperature of the metal parts rises rapidly upon application of US, attains a maximum after about 0.5 sec, and drops after achievement of the weld. 0.1 +0.1-mm parts require but 0.20–0.25 sec. The MVTU and MEI explored US-WG processes of brass 0.25+ 0.25 mm, austenitic stainless steel 0.1 + 0.1 mm, the aluminum alloys АМГ-6Т (AMG-6T) 0.5 + 0.5 mm, Д16АТ (D16AT) 0.3 + 0.3 mm, АМЦ (AMTs) 0.5 +0.5 mm, Zr 0.1 +0.1 mm, steel 1Х18Н9Т (1 Kh18N9T) + Zr 0.5 +0.1 mm. The US WG of the Al alloys is of especial interest for aircraft production because of the lower temperatures involved and the simpler equipment required for it. Strength data on Al-clad D16AT show a jumplike increase in strength at high WG pressures, when apparently the cladding is pierced and a stronger WG contact is established between the two parent-metal layers. A full-page table provides strength data for welds in 12 different metals. The tensile strength of the weldspots ranges from 25-75% of their shear strength. Some lowering in strength in the parent metal by the US weld spots is indicated by test data. The weld spots are sensitive to stress concentration. The fatigue strength (FS) of the spots is lower than their static strength but no lower than the FS of contact-welded joints. US WG is readily automated; it exerts only a minimal thermal effect on the welded parts. It appears most promising in the welding of thin parts, in which it competes with contact welding. US WG of plastic and polymers: US WG is suitable for thicknesses from 0.01 to 10 mm, including lap, Tee, and other joints. The US stresses induced in plastic are normal, as contrasted

with the tangential stresses required for metals WG. Thermoplastics alone can be welded successfully. Projected areas of application: Electrotechnical and chemical industry, building. The effect of US on welding baths: Preliminary findings at the Institute of Metallurgy, AS USSR, the Scientific Research Institute for Production Technology and Organization, the MVTU, and the MEI indicate that US exposure improves the density, uniformity, and strength of welded joints. US reduction of residual stresses and strains in structures: MVTU and MEI measurements on beads welded onto the edges of steel strips 3 mm wide indicate a 50% reduction in residual stresses and strains upon US exposure, probably through stress relaxation. Post-welding deformation of many alloyed steels, attributed to decomposition of retained austenite, has also been shown to be substantially reduced by US exposure. It is premature to speak of immediate practical applications. However, if practical uses are found, it is apparent that US methods lend themselves readily to mechanization and automatization. There are 11 figures and 1 (unnumbered) table; no references.

ASSOCIATION: None given.

KRUSHOL'DT, M.N., kand. tekhn. nauk

Ultrasonic welding of conductors with commutator segments of electric motors. Svar. proizv. no.1:29-30 Ja '65.
(MIRA 18:3)

1. Rostovskiy-na-Donu institut sel'skokhozyaystvennogo mashinostroyeniya.

DOROGOV, N.; KRUMAN, K.; BUCHEV, F., starshiy inzh. proizvodstvenno-tekhnicheskoy propagandy; SMIRNYAGIN, V., instruktor

Trade Union topics. Mest.prom.i khud.promys. 3 no.1:19 Ja '62. (MIRA 15:2)

1. Predsedatel' mestnogo komiteta kontory yuridicheskogo i mashinopisnogo obsluzhivaniya, g. Moskva (for Dorogov). 2. Direktor kul'turnoy bazy Moskovskogo oblastnogo komiteta profsoyuza (for Kruman. 3. Moldavskiy respublikanskiy komitet profsoyuza, g. Kishinev (for Smirnyagin).
(Trade unions)

SUKHAREV, G.M.; KRUMBOL'DT, T.S.

Some recent data on the genesis of underground water of the productive series of Azerbaijan. Dokl.AN SSSR 145 no.5:1137-1140 '62. (MIRA 15:8)

1. Predstavleno akademikom N.M.Strakhovym.
(Azerbaijan--Oil field brines)

SUKHAREV, G.M.; KRUMBOL'DT, T.S.

Conditions governing the formation of underground waters in the Terek-Daghestan oil- and gas-bearing area. Izv. vys. ucheb. zav.; neft' i gaz 5 no.6:3-7 '62. (MIRA 16:5)

1. Groznenskiy neftyanoy institut.
(Daghestan--Oil field brines)
(Terek Valley--Oil field brines)

KRUMELIS, V. A.

"Aerophototopographic Survey of Cities," by V. A. Krumelis, Geodeziya i Kartografiya, No 1, 1956, pp 38-48

The Ukrainian State Trust "Geotopos'yemka" started using aerophototopographic methods in the survey of cities at a scale of 1:2,000 in 1950. During 5 years 36 cities covering an area of 165,000 hectares were processed. On the basis of this experience, the following suggestions are made: for the aerophotosurvey of city territories with a flat relief and one-story houses a camera with f_k = 210 mm is used; for territories with a complex relief and multistory houses, a camera with f_k = 350 or 500 mm is used; for stereotopographical survey cameras with f_k = 100 mm and f_k = 70 mm are used, and for complex relief, cameras with f = 200 mm are called for. The application of these methods proved entirely satisfactory.

Sum 1239

KRUMELIS, V.A.

Division of 1:500 and 1:1,000 scale topographical plans. Geod.i kart.no.7:75-77 Jl '57. (MIRA 10:10)
(Topographical drawing)

KRUMELIS, V.A.

Large-scale surveying of built-up areas by means of graphic methods. Geod.i kart. no.9:41-50 S '57. (MIRA 10:11)
(Surveying)

AUTHOR: Bel'chakov, V. D., Candidate of Technical Sciences SOV/134-58-2-17/22

TITLE: Scientific and Technical Conference of the NIIGA i K (Nauchno-tekhnicheskaya konferentsiya NIIGA i K) II

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy, Geodeziya i aerofotos"yemka, 1958, Nr 2, pp 114-115 (USSR)

ABSTRACT: G. A. Glinskiy, Docent, Candidate of Technical Sciences, spoke on "The Relations Between Distortions in Cartographic Projections." L. A. Begemisov, Candidate of Technical Sciences, reported on "Topographical Deciphering From the Airplane and Helicopter of Aerial Photographs in Cartographically Inaccessible Regions." A. S. Tsitsukhin, Assistant, spoke on "The Relief 1 : 10 000 000)." G. D. Rikhter, Professor, Doctor of Geographical Sciences, dealt with the basic geographic structure of the region.

Card 1/3

Engineer Yu. N. Fel'dman reported on the conference held in the Photography and Cartography) from May 5 to 10. The participation of Geodetical Engineering Institute of Geodesy, Aerophotography, and Cartography) from May 5 to 10. The participants discussed various questions in relation with the design of geodetical and cartographical instruments. More than 500 delegates from many universities and scientific institutions, as well as 82 representatives of different agencies in Leningrad, Kiyev, Sverdlovsk, and other cities, participated in this conference. The Deputy Head of the GUGK, N. D. Kon'shin, read a paper on "Scientific Research in Aerial Camera Design." S. V. Tolmachev, Docent, reported on "The Present State of Production of Geodetical Instruments, and Development of New Instruments." P. V. Bredykhin, Professor, gave a lecture on the construction of photogrammetrical instruments in the USSR and as developments in this field. In the different sections questions Instruments as well as instruments for aerial photography were discussed. Docent S. V. Tolmachev and Engineer Ye. P. Zakharina reported on geodetic engineering instruments. Engineer I. F. Kozhevnykov dealt with the new Multiplex-instruments. P. M. Shanov, Candidate of Technical Sciences, reported on optical Pulp finders of greater precision. V. A. Fetisenko, Candidate of Technical Sciences, on optical range finders of medium accuracy. Engineer I. I. Andrianov and Ye. P. Popov, Candidate of Physical-Mathematical Sciences, spoke on modulators of optical range finders. Engineer L. V. Baburina spoke on the use of light alloys in the manufacture of geodetical instruments. Docent E. E. Burmister and Engineer V. K. Zayenko reported on developments in the production of geodetical instruments. Professor D. Ye. Gal'perin dealt with the optical systems in geodetical instruments. Engineer A. E. Burde, Engineer B. L. Rilling, Docent V. A. Krasnoliv, Docent I. E. Firsov, and Engineer A. V. Shakov informed the participants on the results of the Scientific and Technical Conference held in Kiyev (Planning and Production of Geodetical Instruments).

Card 2/3

Card 3/3

Kuumelis, V. A.

3(4) SOV/154-59-2-5/22

AUTHOR: Krumelis, V. A., Docent

TITLE: Development of Large Scale City Surveys and the Demands Made on Instruments (Razvitiye krupnomasshtabnykh s"yemok gorodov i trebovaniya, pred"yavlyayemyye k priboram)

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy. Geodeziya i aerofotos"yemka, 1959, Nr 2, pp 33 - 35 (USSR)

ABSTRACT: City surveys for general planning are carried out on a scale of 1 : 5000 and for detail planning on a scale of 1:2000. Working drawings are made on a scale of 1:500. In recent years the geodetic standard base has been set up in the form of a triangulation of the 3rd and 4th order. A further development has been attained in higher accuracy traverse surveying of the 1st, 2nd and the 3rd order and in the theodolite traverses of the 1st, 2nd and the 3rd order. The multistage triangulation was reduced to 2 orders. At present a closed triangulation network of the 4th order with a root mean square error of 2" in angle measuring is being set up in the cities. When measuring the angles in triangulation and traversing, the root mean square

Card 1/4

errors lie between 1 and 5". Therefore an optical theodolite of the OT-0,"2 type with an improved reading system becomes necessary. Theodolite traverses and microtriangulation call for a theodolite securing a root mean square error of from 10 to 15" in goniometry. None of the theodolites existing at present satisfies the accuracy required. On the basis of the optical rangefinder SVV-1 it has become necessary to introduce a telemeter for the determination of the sides in the city triangulation and for the measurement of the traversing sections on distances of from 3 to 100 m with a mean error of ± 1 cm. It is also necessary to introduce an optical rangefinder for the distance determination with a mean error of the magnitude of 1/4000. The DNB-2 attachment devised by Belitsin is insufficient. The DN-54 attachment has been worked out in the TsNIIGAiK, with an error of 1/5000 on distance determinations; so far, however, it is not available. The differential rangefinders DD2 are too inaccurate and partly unusable. It is necessary to introduce an optical rangefinder for the determination of distances of from 30 to 350 m with

a relative error of the magnitude of 1/4000. A levelling instrument of the NB-1 and NB-3 type is required for the levelling operations of the 2nd and 3rd order. A levelling instrument with an automatically adjustable line of sight is necessary for both the levelling operations of the 4th order and for technical levelling. It is high time for aerial photography to be introduced in city surveying. The universal stereoprojector devised by G. V. Romanovskiy and the stereograph by F. V. Drobyshev are already being produced. It will therefore be possible already in the course of this year to employ universal methods in large scale city surveying. Professor M. D. Konshin reported in a lecture that a gyro-stabilizing facility has been built for the camera with f_k = 350 mm. Aerial cameras with larger focal lengths, i.e. of 500-750 and 1000 mm are needed to obtain good photographs without a relevant linear displacement of the points with respect to the relief. For large scale plans it would be necessary to re-build the stereocomparagraph devised by F. V. Drobyshev. A theodolite levelling instrument is needed for

Development of Large Scale City Surveys and the Demands Made on Instruments SOV/154-59-2-5/22

surveying work in built-up areas, and stable measuring tables of the Voronovskiy type are required for graphical survey operations. The alidades KB-1 and KB-2 must be equipped with the differential telemeters DD-2 and telescope - level tubes. Cable and tube finders must be manufactured in series for subterranean surveying. The use of ultrasonics to locate non-metallic pipes must be submitted to revision.

ASSOCIATION: Kiyevskiy inzhenerno-stroitel'nyy institut (Kiyev Civil Engineering Institute)

Card 4/4

KRUMELIS, V. A.

PHASE I BOOK EXPLOITATION SOV/4925

Viduyev, Nikolay Grigor'yevich, Daniil Ivanovich Rakitov, Vladislav Pavlovich Orzhibovskiy, Vsevolod Andreyevich Krumelis and Vladimir Viktorovich Podrezan

Osnovy geodezicheskikh razbivochnykh rabot (Principles of Survey Layout Work) 2nd ed., rev. and enl. Kiyev, Gosstroyizdat UKrSSR, 1960. 469 p. 3,000 copies printed.

Ed.: O. Kul'chitskaya; Tech. Ed.: V. Lyamkin.

PURPOSE: The book is intended for engineers and technicans working in the field of civil engineering.

COVERAGE: This book deals with theoretical and practical problems of survey layout work necessary in the construction of industrial plants and public buildings, hydrotechnical structures, roads, and bridges. No personalities are given. There are no references.

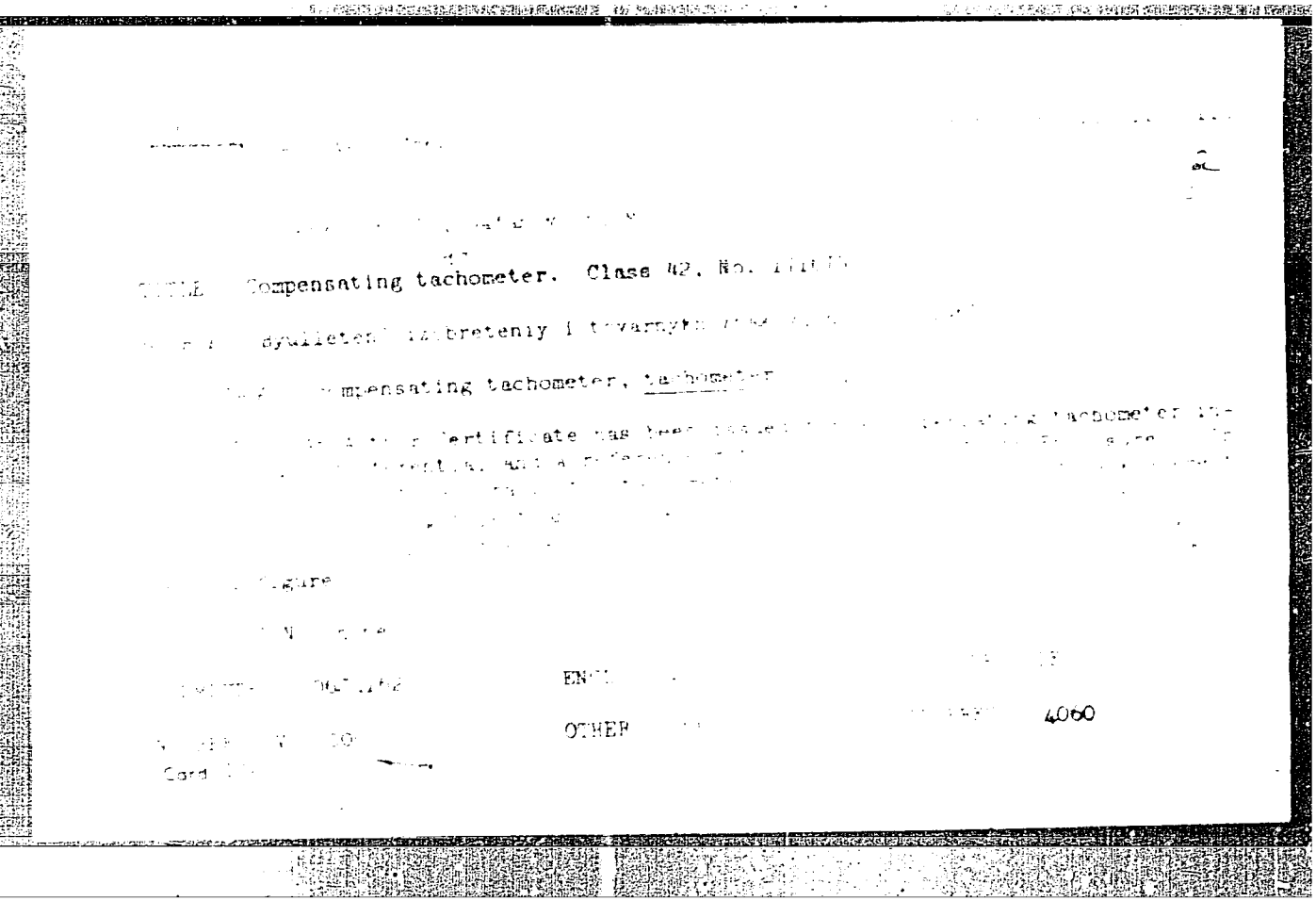
TABLE OF CONTENTS:

~~Card 1/6~~

KRUMELIS, V. A.

"Large-scale aerophotograph by urban and industrial construction."

report submitted for Intl Symp on Geodesy in Construction, Sofia, 24-29 Aug 64.



TITLE Compensating tachometer. Class 42, No. [illegible]

[illegible] dynamometer is presently [illegible]

[illegible] compensating tachometer, tachometer

[illegible] certificate has been [illegible] tachometer [illegible]

[illegible]

[illegible]

[illegible]

ENG

OTHER

4060

Card

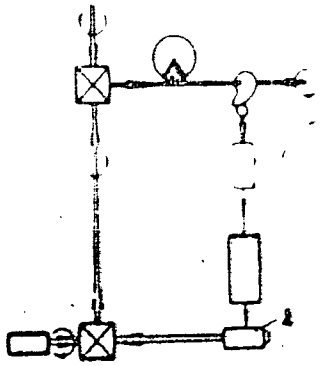


Fig. 1. Compensating tachometer

1 - String-type transducer
2 - synchronous motor

Card 2/2

KRUMGAL'Z, B.S.; MASHOVETS, V.P.

Apparatus for determining the saturated vapor pressure and density of solutions at higher temperatures within a wide range of concentrations. Zhur. prikl. khim. 37 no.11:2398-2401 N '64 (MIRA 18:1)

1. Leningradskiy tekhnologicheskiy institut imeni Lensoveta.

KEYGAL'Z, B.S.; MASHOVETS, V.P.

Density of concentrated solutions of NaOH (higher than 45% weight) at temperatures up to 400° C. Zhur. prikl. khim. 37 no.12:2596-2600 D '64. (MIRA 18:3)

1. Leningradskiy tekhnologicheskiy institut imeni Lensoveta.

KRUGALI'Z, B.S.; MACHOVETS, V.F.

Saturation vapor pressure of sodium hydroxide solutions (with concentrations higher than 45 percent) at temperatures up to 400° C. Zhur. prikl. khim. 37 no.12:2750-2752 D '64.

(MIRA 18:3)

1. Leningradskiy tekhnologicheskiy institut imeni Lensoveta.

MESHCHERYAKOV, V.P.; DIBROV, I.A.; KRUSHKOL', E.F.

Some thermodynamic characteristics of alkaline solutions at high temperatures and pressures. Zhur.fiz.khim. 39 no.7:1723-1728 Jl '65. (MIRA 18:8)

1. Leningradskiy tekhnologicheskiy institut imeni Lensoveta.

[illegible], V.I.; KREYNGAL'Z, B.S., [illegible]

[illegible] ulation of the activity [illegible] of a dissolved substance based on the data on saturated vapor pressure of electrolyte solutions at high temperatures. Zhur.fiz.khim. 39 no.10:2486-2491 O '65. (MIRA 18:12)

1. Leningradskiy tekhnologicheskiy institut imeni Lensoveta. Submitted July 23, 1964.

MASHOVETS, V.P.; KRUMGAL'Z, B.S.; DIKROV, I.A.; MATVEYEVA, R.P.

Saturated vapor pressure of KOH solutions up to 400° and the activity of water in solutions of LiOH, NaOH, and KOH within a wide range of concentrations. Zhur. prikl. khim. 38 no. 10:2342-2344 O '65.

Density of aqueous KOH solutions at high temperatures within a wide range of concentrations. Ibid.:2344-2347

(MIRA 18:12)

1. Leningradskiy tekhnologicheskiy institut imeni Lensoveta. Submitted July 22, 1964.

KRUMGAL'Z, B.S.; MASHOVETS, V.P.

Aqueous solutions of LiOH at high temperatures. Zhur.neorg.khim. 10 no.11:2564-2565 N '65. (MIRA 18:12)

1. Leningradskiy tekhnologicheskiy institut imeni Lensoveta.
Submitted December 3, 1964.

1. [illegible], P[illegible]L'MAN, L.
2. USSR (600)
4. Construction Industry - Finance
7. Refundable sums in construction estimates, Fin. i Kred. SSSR No. [illegible], 1953.

9. Monthly List of Russian Accessions, Library of Congress, June 1953. Unclassified.

KRUMGOL'TS, M.

Thirty-first session of the Scientific Council of the Central Scientific Institut pf the Wood-Chemistry Industry. Gidroliz. i lesokhim prom. 14 no.2:30 '60. (MIRA 14:3)
(Wood--Chemistry)

KRUMGOL'TS, M.L.

Discussion of problems concerning the production and use of polyhydric alcohols. Gidroliz. i lesokhim. prom. 18 no.5: 30-31 '65. (MIRA 18:7)

KRUMGOL'TS, R.F., inzhener.

Improving the operation of lowered water level indicators in boiler drums. Energetik 5 no.8:15-16 Ag '57. (MLRA 10:10)
(Boilers)

KRUMBOLC, F.

An inventory of livestock and other farm assets excluding real estate. p. 3?.
(Rolnicke Hlasy, Vol. 11, no. 6, June 1957. Praha, Czechoslovakia)

(

SO: Monthly List of East European Accessions (EEAL) LC, Vol. 6, no. 1?, October 1957. Uncl.

USSR/Chemical Technology -- Chemical Products and Their Application. Nitrogen Industry, I-3

Abst Journal: Referat Zhur - Khimiya, No 1, 1957, 1389

Author: Purtseladza, Kh. G., Dzhikiya, S. I., Krumidze, Z. A., and Chkoniya, T. K.

Institution: Institute for Metals and Mining of the Georgian Academy of Sciences

Title: Absorption of Nitrogen Oxides by Manganese Hydroxide

Original Periodical: Tr. In-ta metalla i gorin. dela AN GruzSSR, 1956, Vol 7, 239-247

Abstract: The results from laboratory experiments on the absorption of nitrogen oxides at concentrations of ~0.3% and room temperature in Mn-ores (manganese sponge, manganese carbonate, and pyrolusite) and paste-like $Mn(OH)_2$, containing up to 65% water (with the addition of wood shavings to reduce the resistance), have shown that manganese ores quickly become deactivated; $Mn(OH)_2$ was the only compound tested which proved suitable for the absorption of nitrogen oxides. The $Mn(OH)_2$ can be regenerated from the $Mn(NO_3)_2$ by the action of

Card 1/2

USSR/Chemical Technology -- Chemical Products and Their Application. Nitrogen Industry, I-3

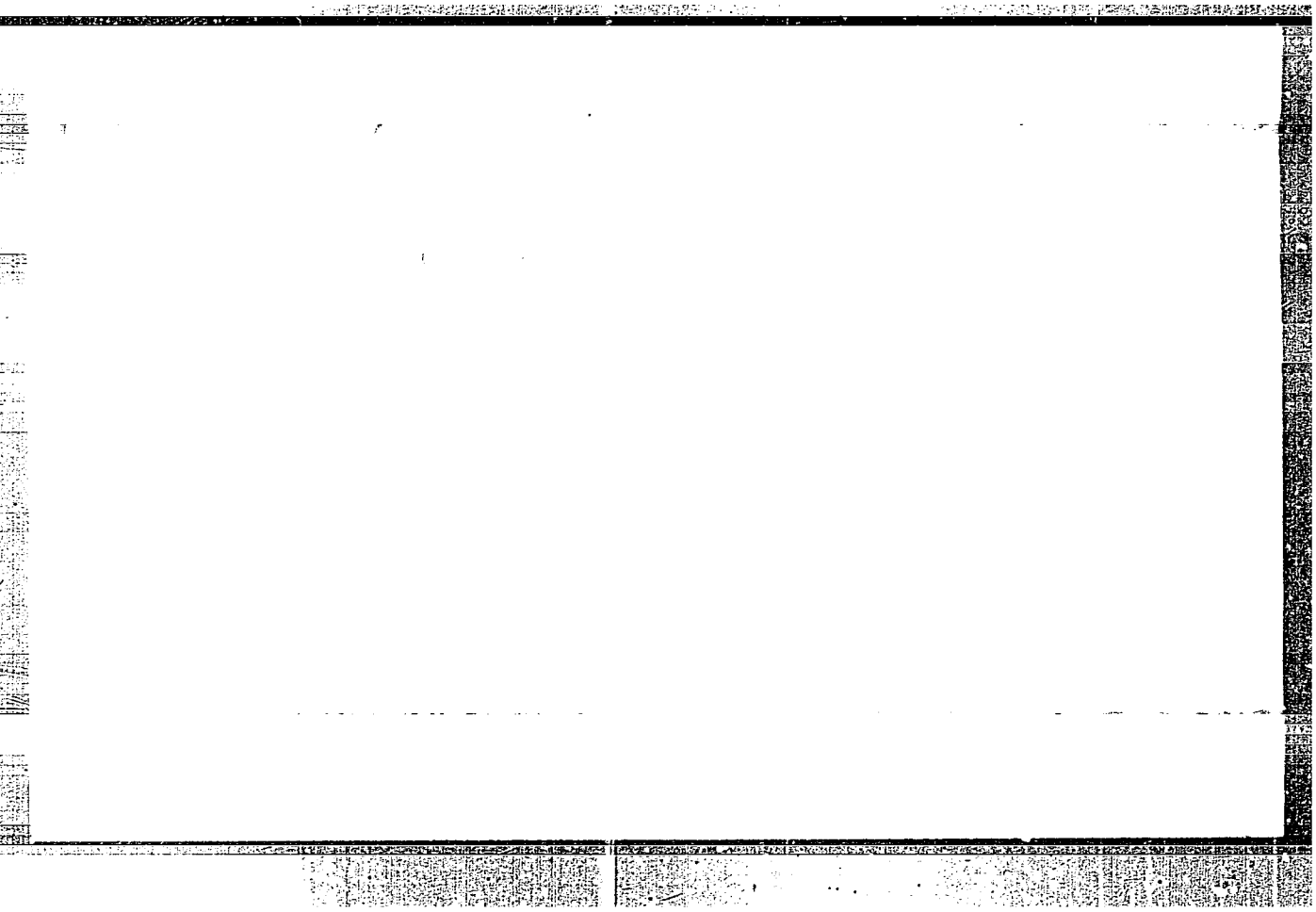
Abst Journal: Referat Zhur - Khimiya, No 1, 1957, 1389

Abstract: NH_4OH; as an alternate method, activated MnO_2 or Mn concentrates can be obtained by the thermal dissociation of the nitrate.

Card 2/2

KRUMIN', E. [Krumina, E.]

Changes in the blood system of dogs under the influence of varying methods of injecting cobalt salts; a method for producing experimental cobalt polycythemia. Vestis Latv ak no.7:101-106 '62.



AR5008899 S/0299/65/000/005/M019/M019

... Biologiya. Svodnyy tom, Abs. 5M124

AUTHOR: Krumin', E. N.

TITLE: The effect of homotransplantation of spongy bone on the composition of the ... blood

SOURCE: Sv. Materialy 1-go S'yezda travmatologov-ortopedov resp. Pribaltiki, ..., Riga, 1964, 308-309

TOPIC TAGS: homotransplantation, bone, bone graft

ABSTRACT: Changes were studied in the composition of the peripheral blood in 38 ... homotransplantation of spongy bone ... preserved by deep freezing (-75° ... The results of ... after an operation ... were considered as a manifestation ... the organism ... operational intervention. [N. S.]

Card ...

AR5008899

SUB CODE: LS ENCL: 00

Card 2/2

APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000826720012-3"

KRUM_N', K.

"The Problem of a Conducting Ball in a Moving Magnetic Field," from the book-(Applied Magnetohydrodynamics), Works of the Institute of Physics, Vol 8, edited by I.A. Tyutin, Candidate of Technical Sciences; I.M. Kirko, Candidate of Physicomathematical Sciences; V.G. Vitol, Candidate of Physico-Mathematical Sciences; and S.A. Varchenya; Riga, Publishing House of the Academy of Sciences Latvian SSR; 1956, 132 pp

Sum in 1467

KRUMIN, K.

6775. Krumin, K. Osnovy zemledeliya. Agrotekhminimum. Pod red. K. Krumin'. (2-ye dop. izd.) Riga, Latgosizdat, 1954. 420 s. s. ill.; 6 l. ill. 23 sm. (V pomoshch' slushatelyam kolknoz, agrozootekhn, kursov). 8.000 ekz. 9 r. 65 k. V per.--Na latysh. yaz.-- (55-1617) 631 (02)

SO: Knizhnaya Letopis' No. 6, 1955

KRUMIN', K.A.

Simplified plaster cast for congenital hip dislocation in infants.
Ortop., travm. i protez. 17 no.2:45-46 Mr-Ap '56. (MLRA 9:12)

1. Iz kliniki detskoy ortopedii (zav. - prof. A.P.Biyezin') Rizhskogo nauchno-issledovatel'skogo instituta ortopedii i vosstanovitel'noy khirurgii (i.o.direktora - dotsent S.M.Lishnevskiy)
(HIP, dislocations,
congen., ther., plaster casts for inf. (Rus))
(DISLOCATIONS,
hip, congen., ther., plaster casts for inf. (Rus))
(PLASTER CASTS,
in congen. hip disloc. in inf. (Rus))

KRUMIN, K.A.

BIYEZIN', A.P., professor; KRUMIN', K.A., ispolnyayushchiy obyazannosti starshego nauchnogo sotrudnika

Repairing defects of the tibia following hematogenous osteomyelitis. Ortop.travm. i protez. 17 no.6:87 N-D '56. (MLRA 10:2)

1. Iz kliniki detskoy ortopedii (zaveduyushchiy - professor A.P. Biyezin') Rizhskogo nauchno-issledovatel'skogo instituta ortopedii i vosstanovitel'noy khirurgii (direktor - professor O.M.Rudenko)
(TIBIA--SURGERY) (OSTEOMYELITIS)

KRUMIN', K.A.; VOSKIKS, Kh.Ya.

Morphological changes in coxofemoral joints in congenital dislocation in premature infants with multiple congenital developmental defects. Ortop.travm.i protez. 20 no.4:68-70 Ap '59. (MIRA 13:4)

1. Iz kliniki detskoy ortopedii (zav. - zasl.deyatel' nauki prof. A.P. Biyezin') Rizhskogo nauchno-issledovatel'skogo instituta i ortopedii (dir. - prof. O.M. Rudenko) i kafedry operativnoy khirurgii s topograficheskoy anatomiyey (zav. - prof. A.P. Biyezin') Rizhskogo meditsinskogo instituta (dir. - chlen-korrespondent AMN SSSR prof. E.M. Burtniyek [deceased].

(HIP, disloc.
congen., morphol. of joint in premature inf with multiple abnorm. (Rus))
(INFANT, PREMATURE, dis.
disloc. of hip., morphol. of joint in inf. with multiple abnorm. (Rus))

KRUMIN', K.A. [Krūmin, K.]; TERAUDE, I.A. [Tēraude, I.]

Early diagnosis and treatment of congenital hip dislocations in newborn infants. Ortop.,travm.i protez. 20 no.11:51-54 N '59. (MIRA 13:4)

1. Iz kliniki detskoy ortopedii Rizhskogo nauchno-issledovatel'skogo instituta travmatologii i ortopedii (direktor - prof. O.M. Rudenko [deceased] i otdeleniya novorozhdennykh Rizhskoy gorodskoy I klinicheskoy bol'nitsy (glavnyy vrach - K.F. Bergmans).
(HIP fract. & disloc.)

KRUMIN', K.A.; YANSON, K.K.

Splint for the treatment of congenital hip dislocation. Ortop., travm. i protez. 21 no.1:64-67 Ja '60. (MIRA 13:12)
(HIP JOINT—DISLOCATION)

USOSKINA, R.Ya., kand. med. nauk (Riga 12, ul. Lenina, d. 138, kv.24-a); KRUMIN', K.A. [Krumins, K.], kand. med. nauk; ANDREYEVA, Ye.I., kand. med. nauk

Polyclinical service for children with diseases and traumas of the locomotor apparatus in the Latvian S.S.R. Ortop., travm. i protez. 26 no.11:9-16 N '65. (MIRA 18:12)

1. Iz Rizhskogo instituta travmatologii i ortopedii (direktor - dotsent V.K. Kalnberz [Kalnberzs, V.]) i otdela lechebno-profilakticheskoy pomoshchi detyam i materyam (nachal'nitsa Ye.I. Andreyeva) Ministerstva zdravookhraneniya Latviyskoy SSR.

112-1-1468

Translation from: Referativnyy Zhurnal, Elektrotekhnika, 1957, Nr 1, p.222 (USSR)

AUTHOR: Krumin, Ye.A.

TITLE: Influence of Electric Traction Current Upon the Performance of the Track Relay of a Code Automatic Block System (K voprosu vliyaniya toka elektrotyagi na rabotu putevogo rele kodovoy avtoblokirovki)

PERIODICAL: Sbornik nauchn. tr. Tomskiy elektromekhan. in-t inzh. zh.-d. transp., 1955, 21, pp.90-100.

ABSTRACT: The possibility of disturbing the normal operation of the track pulse relay of the ИPBI-110 type used in the a-c code track circuit is investigated; the disturbance occurs because of the magnetizing influence of the direct component of the traction current upon the relay transformer

Card 1/2

Influence of Electric Traction Current Upon the Performance (Cont.)

of the СОБС-2 type. On the basis of calculations and laboratory experimental research, it is demonstrated that because the traction current is out of balance in the presence of longitudinal assymmetry in the network, the magnetizing action of the direct component of the traction current upon the relay transformer of the СОБС-2 type will not be able to upset the normal operation of the НПВ1-110 type relay. It is not necessary to apply special protective measures against the influence of the out-of-balance direct component of the traction current.

N.F.K.

Card 2/2

KRUMIN, Ye.A., kand.tekhn.nauk

Selecting diagrams for the rotation of the voltage vector in receivers and calculation methods involved. Trudy TE;IZHT 23: 43-53 '57. (MIRA 13:11)
(Electric relays) (Electric railroads)

KOTLYARENKO, N.F., kand.tekhn.nauk; KRUMIN, Ye.A., kand.tekhn.nauk

New variations in a.c. rail networks. Avtom.telem. i sviaz' 3 no.12:15-16 D '59. (MIRA 13:4)
(Electric railroads)

KRUMIN, Ye.A., kand.tekhn.nauk

Using electronic calculating machines for the design of electric track circuit. Zhel.dor.transp. 42 no.11:47 N '60. (MIRA 13:11)
(Railroads--Electric equipment)
(Electronic calculating machines)

TYUMOREZOV, Viktor Yevgrafovich, inzh.; KIRILOV, Mikhail Mikhaylovich, kand. tekhn. nauk; KOZLOV, Lev Nikolayevich, inzh.; KRUMIN, Ye.A., kand. tekhn. nauk, retsenzent; POZDNYAKOV, L.G., inzh., retsenzent; FEL'DMAN, A.B., inzh., retsenzent; KAZAKOV, A.A., kand. tekhn. nauk, red.; MEDVEDEVA, M.A., tekhn. red.

[Electric power supply to railroad communications, apparatus and automatic control, and remote control systems] Elektropitanie ustroistv sviazi, avtomatiki i telemekhaniki na zheleznodorozhnom transporte. Moskva, Vses. izdatel'sko-poligr. ob"edinenie M-va putei soobshcheniia, 1961. 215 p. (MIRA 14:11)

(Electric power supply to apparatus)
(Railroads--Electric equipment)

KRUMIN, Ye.A., kand.tekhn.nauk

Using the "Ural" electronic calculating machine in computing the electric track circuit systems. Vest.TSNII MPS 20 no.4: 62-64 '61. (MIRA 14:7)

(Electronic calculating machines)
(Electric railroads--Current supply)

KRUMIN, Ye.A., kand.tekhn.nauk; STEMPKOVSKIY, G.A., inzh.

Parameters of small sized DT-0, 2-500 and DT-0, 6-500 choke transformers. Avtom., telem.i sviaz' 6 no.2:10-11 F '62. (MIRA 15:3)

(Electric transformers) (Railroads—Electric equipment)

KRUMIN, Ye.A., kand.tekhn.nauk

Performance of an a.c. track circuit with a DSR-12 relay and ordinary and small-sized choke transformers. Avtom. telem. i sviaz' 8 no.1:8-10 Ja '64. (MIRA 17:3)

KRUMIN, Ye.A., kand.tekhn.nauk

Results of the calculation of the principal operating modes of a new track code circuit using the "Ural" computer. Avtom., telem. i sviaz' 8 no.12:11-13 D '64. (MIRA 18:1)

KRUMIN, Ye.A., kand. tekhn. nauk

Effect of sharp ballast resistance drops on the operation of a code track circuit. Avtom., telem. i sviaz' 9 no.10:5-8 O '65. (MIRA 18:11)

KRUMIN, Ye.D., kand.tekhn.nauk

Effect of magnetizing current on the resistance of a choke transformer. Avtom., telem.i sviaz' 4 no.3:28-29 Mr '60. (MIRA 13:7)
(Electric transformers)
(Railroads--Electric equipment)

KRUMIN', Yu. K.: Master Phys-Math Sci (diss) -- "The computation and modeling of ponderomotive forces acting on a conducting body when it is moving relative to a magnetic field". Riga, 1959. 8 pp, 150 copies (KL, No 11, 1959, 114)

PAGE 1 BOOK EXPLOITATION SOV/7753

Akademiya nauk Latviyskoy SSR. Institut fiziki

Elektromagnitnyye protsessy v metallakh (Electromagnetic Processes in Metals) Riga, Izdatel'stvo AN Latviyskoy SSR, 1959. 200 p. (Series: Its: Trudy, No. 11) Errata slip inserted. 1,000 copies printed.

Ed.: A. Ziyatdinov; Tech. Ed.: A. Elyerin; Editorial Board: V.S. Pirel, V.K. Kalnyn', I.K. Kikoin (Resp. Ed.), and Ya. Ya. Elyerin.

PURPOSE: This book is intended for physicists interested in electromagnetic processes in metals.

COVERAGE: This is a collection of fifteen articles by various authors on the investigation of electromagnetic processes in metals by modeling. Individual articles treat the following: conditions necessary for modeling particular phenomena; modeling the magnetization of ferromagnetic metals in a variable field on an iterated network consisting of chain cells with saturable reactors and constant resistances; external fields produced by ferromagnetic tubes which have been magnetized in a constant uniform field oriented along the axis; the possibility of using galvanic baths and other models for investigating fields with continuously distributed electromagnetic forces, particularly turbulent fields; the magnetization of a system of interacting cylindrical particles; determination of the criterion relationship for the motion of an asynchronous engine rotor with similar mechanical characteristics (rotational moment, period of rotational oscillations around a point of equilibrium and alternation rate) when the slip is close to unity; the problem of computing the pondermotive forces acting on a cylindrical conducting body placed in the traveling magnetic field of a cylindrical inductor; the motion of a sphere in magnetic hydrodynamics; the reflective and refraction of hydromagnetic waves of arbitrary polarization on the boundary of two ideal incompressible liquids with infinite conductivity; a study of phenomena in the turbulent flow of liquid metal in induction pumps under the effect of a traveling magnetic field; the traveling principle of the pump and the computation of their electromagnetic and hydraulic characteristics; characteristic properties in designing linear induction pumps as suggested by I.A. Tyutin; theoretical computation of functions $\Psi(k', h)$ and $\Psi(k', h)$ and the construction of curves producing thrust energy by an induced current. No personalities are mentioned. References accompany the articles.

Elinashvili, A.V. Modeling of the Electrical Field of Electromagnetic Pump in a Galvanic Bath and an Electrical Conducting Paper 11

Grigor'yev, B.S. Some Problems of Magnetizing a System of Interacting Cylindrical Particles 37

Kalnin', R.F. Relationship Between the Magnetic Losses in a Ferrite Core With an Open Magnetic Circuit 73

Kvasha, Yu.K. Oscillatory Motion of a Conducting Axially Symmetrical Body in a Rotating Magnetic Field 85

Kvasha, Yu.K. Problem of a Conducting Cylinder in a Traveling Magnetic Field of a Cylindrical Inductor 107

Savitis, A.K. The Motion of a Sphere in a Viscous Conducting Fluid in a Longitudinal Magnetic Field 121

Semenov, E.Ya., and V.Ya. Kravchenko. Behavior of Hydromagnetic Waves at the Boundary of Two Media 129

Tirbo, I.M., Yu.Yu. Elyerin, and I.A. Tyutin (Deceased) and L.Ya. Ul'manis. Model of an Infinitely Long Channel With Liquid Metal in a Traveling Magnetic Field 143

Nikolaev, A.F. Calculation of D-C Conduction Pumps for Liquid Metals 155

Filippov, N.V. Use of Nomograms for Determining the Parameters of Induction Pumps 165

Filippov, N.V. Nomographic Calculation of Functions $\Psi(k', h)$ and $\Psi(k', h)$ 171

Shkarban', B.P. Low-Temperature Induction Heaters With an Opening of Circular Cross-Section in the Channel 187

PHASE I BOOK EXPLOITATION SOV/5762

Konferentsiya po magnitnoy gidrodinamike. Riga, 1958.

Voprosy magnitnoy gidrodinamiki i dinamiki plazmy; trudy konferentsii. (Problems in Magnetohydrodynamics and Plasma Dynamics; Transactions of a Conference) Riga, Izdatel'stvo AN Latviyskoy SSR, 1959. 343 p. Errata slip inserted. 1,000 copies printed.

Sponsoring Agency: Akademiya nauk Latviyskoy SSR. Institut fiziki.

Editorial Board: R.B. Promtov-Ozolinskiy, Doctor of Physics and Mathematics, Professor; A.G. Val'ter, Doctor of Technical Sciences, Professor; I.M. Elko, Professor; A.G. Val'ter, Doctor of Physics and Mathematics; A.A. Rubin, Candidate of Physics and Mathematics; V.D. Fikel, Candidate of Physics and Mathematics; Ya.M. Grants; and V.Ya. Eyduk.

Ed.: A. Peyal'-Yuma; Tech. Ed.: A. Kiyenlyan

PURPOSE: This book is intended for physicists working in the field of magnetohydrodynamics and plasma dynamics.

COVERAGE: This volume contains the transactions of a conference held in Riga, September 1958, on problems in applied and theoretical magnetohydrodynamics. The first 1958, on problems were the investigation of the basic trends in the physical and applied magnetohydrodynamics, establishing contact between the problem among researchers in different branches of magnetohydrodynamics, and promoting the participation of theoretical physicists in applied magnetohydrodynamics. More than 160 persons from different parts of the Soviet Union took part in the conference, and 55 papers were read. Similar conferences are to be held regularly in the future; the next conference is scheduled to be held in Riga in June 1960. In this present collection of the transactions of the conference, most of the papers and some of the discussions are presented in an abridged form. The book is divided into two parts. The first part deals with problems in theoretical magnetohydrodynamics and plasma dynamics, and consists of 33 articles on such topics as the application of the equations of magnetohydrodynamics to astrophysics (B.A. Trubnikov), magnetohydrodynamics and the investigation of cosmic-ray variations (L.I. Dorman), acceleration of plasma in a magnetic field (S.T. Belyayev and G.I. Budker), stability of short waves and magnetohydrodynamics (A.I. Akhiyezer), etc. The second part, consisting of 33 articles, deals with problems of experimental magnetohydrodynamics, including the application of physical simulation for investigation of electromagnetic processes in liquid metals (V.K. Kirpu) and the development of electromagnetic pumps (P.A. Kirillov), at the Institute of Physics of the Academy of Sciences, Latvian SSR. Several articles are devoted to induction pumps, electromagnetic couplers, electromagnetic mixers for molten metals, and their application in the metallurgical industry including schemes and diagrams of their power-supply systems. References are given at the end of most of the articles.

Card 9/12

24.2300 1062, 3108, 1538, 1482, 1144

31625
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B117/B108

AUTHORS: Dobryakov, D., Krumin', Yu., Klyavin', Ya., Nikolayev, V.

TITLE: Investigation of the possibility of conveying spherical conductive bodies by means of a magnetic traveling field

PERIODICAL: Akademiya nauk Latviyskoy SSR. Izvestiya, no. 12 (173), 1961, 55 - 60

TEXT: Ponderomotive forces were determined, which are necessary for conveying solid and hollow spheres placed in the magnetic traveling field of a cylindrical inductor. Experiments were conducted to convey solid spheres of various materials in a magnetic traveling field inductor under dynamic conditions. For the motion of a sphere in a tube, an approximate equation was derived under the following assumptions: (1) the friction is proportional to the velocity of the sphere, $F_{friction} = kv$; (2) the acceleration of the sphere is constant, $dv/dz = a = const$; (3) the electromagnetic force F_{em} does not change with velocity (holds for a small range of velocities); (4) the energy consumed by the rotation of the sphere

Card 1/3

Investigation of the possibility...

during its motion is neglected (holds for angle α close to 90°C). The final equation is: $F_1 = (a/g) + \sin\alpha$, where $F_1 = (F_{em} - F_{friction})/mg$ (m = mass of the sphere). This equation was checked experimentally (Fig. 5). The abscissae $\bar{H}$ are the ratios between the field in the inductor and the field at which the sphere floats (then, $\bar{H} = 1$). The measurements were made for 3 angles of inclination of the tube (inductor): $\alpha = 90^0$, 60^0, and 30^0. The field in the inductor, in the direction of its propagation, does not take an exactly sinusoidal course, so that stronger and weaker field sections alternate along this direction. At a certain field strength, a stronger field section develops below the sphere, which keeps it from falling. Above the sphere, a weaker field section develops, not sufficiently strong to lift it. This mechanism keeps the sphere afloat. Spheres of different materials but equal diameter have equal F_1-versus-$\bar{H}$ curves at every specific angle. The mean velocity of the sphere was also calculated. It is shown as a function of $\bar{H}$ in Fig. 6. $\bar{v}$ is the ratio between velocity of the sphere in the presence of the field and the fall velocity without magnetic field. The absolute values of $\bar{v}$ are plotted as ordinates. It is characteristic that all experimental points for all angles lie on a common

Card 2/5

Investigation of the possibility...

curve and are distributed among 3 sections: section (a) characterizes deceleration, (b) the floating suspension, and (c) the lifting of the sphere. Copper- and aluminum spheres were used in the experiments. For lifting tin and lead spheres, very high field strengths are necessary which were not reached in the experiments. Nevertheless, the experimental points showed the tendency of lying on the common curves (Figs. 5, 6). The investigations permit determining the parameters of ponderomotive conveyers. There are 6 figures and 2 Soviet references.

ASSOCIATION: Institut fiziki AN Latv. SSR (Institute of Physics AS Latviyskaya SSR)

SUBMITTED: April 5, 1961

Card 3/5

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44672
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B104/B186

AUTHORS: Vitolin', A., Kirshteyn, G., Krumin', Yu.

TITLE: Measurement of the magnetic field strength in the experiment with electron paramagnetic resonance

PERIODICAL: Akademiya nauk Latviyskoy SSR. Izvestiya, no. 12(185), 1962, 57-66

TEXT: Two variants of an apparatus have been developed by which frequency marks and e.p.r. spectra are simultaneously recorded on a tape. The magnetic field is stabilized by proton resonance. The first variant uses a superheterodyne frequency measuring method. Principle: Two signals are fed to the mixer tube: that of the frequency to be measured, and that of the voltage of a quartz resonator with comparatively low fundamental frequency, ν_0. The mixer tube is connected with a narrow band amplifier adjusted for the frequency $\nu_0/2$. A signal is given at the amplifier output if the frequency to be measured is equal to a frequency lying between two harmonic oscillations of the quartz generator. This

Card 1/2

signal produces a pulse which records a mark on the tape. The second variant uses a resonance frequency measuring method in which the input impedance of an artificial long line (connected as anode load) changes with the frequency of the input signal. A field marker correlates the measured frequencies and the resonance spectrum on a tape. There are 7 figures.

ASSOCIATION: Institut fiziki AN Latv. SSR (Institute of Physics AS LatSSR)

SUBMITTED: April 24, 1962

Card 2/2

SHVARTS, K.K. [Svarcs, K.]; VITOL, A.Ya. [Vitols, A.]; KRUMIN', Yu.K. [Krumins, J.]; LAYZAN, V.B. [Laizans, V.]; LYUSHINA, A.F.

Microstructure of manganese centers in sodium chloride crystals. Izv. AN SSSR. Ser.fiz. 29 no.3:404-405 Mr '65.

(MIRA 18:4)

ACC NR: AT/001357 SOURCE CODE: UR/0000/66/000/000/0109/0134

AUTHOR: Krumin', Yu. K. (Candidate of physico-mathematical sciences)

ORG: none

TITLE: Ponderomotive forces acting on conducting bodies in a traveling magnetic field of a cylindrical inductor

SOURCE: AN LatSSR. Institut fiziki. Dvisheniye provodyashchikh tel v magnitnom pole (Movement of conducting bodies in a magnetic field). Riga, Izd-vo Zinatne, 1966, 109-134

TOPIC TAGS: mhd, liquid metal, electromagnetism, rotating magnetic field

ABSTRACT: In view of the increased use of traveling magnetic fields with axial symmetry in magnetohydrodynamic equipment, the author calculates the forces acting on conducting bodies situated in such magnetic fields, and reviews the methods of calculating these forces and especially their maximum values, as functions of other characteristics of the apparatus. The analysis begins with the derivation of equations for the magnetic field in a cylindrical inductor that produces a polyphase rotating magnetic field, in which a conducting body is situated. The distribution of the field along the inductor is determined both for infinitely long cylinders and for cylinders of finite length. The radial and tangential forces on the conducting cylinder are then determined and the various approximations necessary to obtain numerical results are discussed. Both solid and hollow cylinders in the field of an

Card 1/2